

New Grasshoppers (Acridoidea) from the Great Karroo and the South Eastern Cape Province.

by

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During the early part of November 1958 while engaged upon an aphid survey of cereal lands in the picturesque Langkloof Valley of the South Eastern Cape, I was able to do a little collecting of grasshoppers in the veld adjoining the lands. Some of the new material which was collected from this area and the adjoining Great Karroo is described below. With one exception, that being material donated by the Division of Locust Control and Research through the kindness of Mr. J. H. Kruger, all the material has been collected by myself and to avoid repetition I have omitted the collectors name from nearly all the descriptions.

Fam. PAMPHAGIDAE.

Genus **THRINCOTROPIS** Saussure, 1899.

Thrincotropis karruensis sp. n. (Figs. 1—9).

♂-type. Small with strongly sculptured body. Antenna composed of 12 segments, the basal ones partly fused and triangular in cross section, apical segments filiform with the terminal one elongated. Head strongly projecting in front, very rugulose and tuberculate. Fastigium of vertex long, triangular with excised apex and concave dorsal surface covered with numerous small irregular carinae. Lateral margins of fastigium high and carinate and continuing backwards between eyes as two pairs of high toothed projections. Frons in profile, deeply incurved and sinuate; frontal ridge above, formed by two strongly compressed plates, below, with two lateral carinulae which diverge to clypeus and are shallowly sulcate along the middle. Facial carinulae in profile, raised and sinuate. Eyes oval, strongly convex. Ocelli small.

Pronotum sub-cylindrical and covered with longitudinal rugosities and large tubercles. Median carina in prozona forming two strong, compressed crests, posterior one high with anterior margin more abrupt than posterior margin which is more rounded, anterior crest much smaller. Prozona three times

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longer than metazona which has a moderately high dorsal tubercle situated at the posterior margin. Lateral lobe of pronotum with numerous carinulae and tubercles; situated centrally and just anterior to basal sulcus is a large tooth-like projection. Prosternal tubercle broadly conical, compressed at sides with anterior surface wide and concave and with posterior surface rounded, apex with small scattered spherical tubercles. Mesosternal interspace slightly longer than its width, narrowed slightly in front; mesosternal lobes almost straight posteriorly. Metasternal interspace closed, as long as wide, deeply pitted at sides. Elytron, lateral and lobiform, hardly reaching to metathorax. Abdominal tergites as with metanotum each with a backwards sloping tooth near its posterior margin. Hind femur relatively slender, toothed along both carinae and not reaching to tip of abdomen. External apical spine of hind tibia much shorter than remaining spines. Arolium shorter than claw.

Supra-anal plate parabolic with acute apex, sulcate at the base and with median longitudinal convexity which becomes narrowed towards apex of plate. Cercus stout, elbowed and bent inwards towards apex which is acute. Sub-genital plate small, with acute apex, rounded lower margin and flat upper one.

Epiphallus shield shaped with small prominent ancorae, sinuate lateral plates and with two convex, slightly thickened areas each sparsely covered with small triangular teeth. Lophi indistinct and formed by two apically spined lateral convexities.

General coloration dark brown with fine glossy white streaks. First three abdominal segments with laterally situated black areas. Tarsus pink above and brown below.

♀-paratype. Larger than male. Antenna with all but three apical segments widened and feebly toothed; fastigium of vertex longer and more concave above. Pronotal crests less prominent and more sloping in profile. Toothed posterior margins of abdominal tergites less strongly developed than in male. Cercus small and conical, straight and not bent as in male. Ovipositor valves slender with sharply curved apices. General coloration as the male but with less white.

Length of body: ♂ 14.0—16.1, ♀ 25.0—29.3; pronotum: ♂ 2.7, ♀ 4.1—4.3; elytron: ♂ 0.3, ♀ 0.4; hind femur: ♂ 5.1—6.4, ♀ 7.7—8.5 mm.

Material examined: SOUTH AFRICA. Cape Province: Great Karroo, 15 miles W. Graaff Reinet, 11.xi.1958, 1 ♀; 13 miles N. Miller Station, 12.xi.1958, 2 ♀; 16 miles S. Aberdeen, same date, 1 ♂ and 1 ♀; 35 miles S. E. Steytlerville, 21.xi.1958, 1 ♂, the type; South Eastern Cape, 7 miles S. E. Willowmore, 13.xi.1958, 1 ♂. All specimens with Number DB 94.

The ♂-type and one ♀-paratype are in the Transvaal Museum, Pretoria. Other paratypes are in the British Museum (Natural History), London, the Academy of Natural Sciences of Philadelphia and the National Insect Collection of the Department of Agriculture, Pretoria.

The new species is near to *T. caffra* Saussure but differs in the shape of the fastigium of the vertex and the much shorter hind femur.

Thrincotropis karruensis is a widely distributed but rather rare species which is phytophilous in its habits frequenting the foliage and branches of low gnarled perennial shrublets of the Great Karroo. It was noticed that in the transition to arid Sclerophyll vegetation it always preferred the karrooid shrublets to the more abundant derivatives of the Sclerophyll. Indeed to the south further away from the influence of the Karroo vegetation it was absent. Occasionally specimens were seen on the ground between the bushes but when approached they made rapidly for the nearest bush and crept into the twiggy dry foliage and became immobile. Most of the specimens that were taken, however, came by trampling the bushes underfoot and ejecting the surprised insects onto the ground where they were easily captured with a glass tube.

Females appeared to be more common than the males probably due to their larger and more noticeable size.

Fam. LENTULIDAE.

Genus **LEATETTIX** Dirsh, 1956.

The genus *Leatettix* was recently founded by Dirsh (1956c) with a single species *L. laticornis* Dirsh being recorded. Now another species referable to this genus is described below.

Leatettix nasuta sp. n. (Figs. 10—18).

♂-type. Size small, comparatively slender and rugulose.

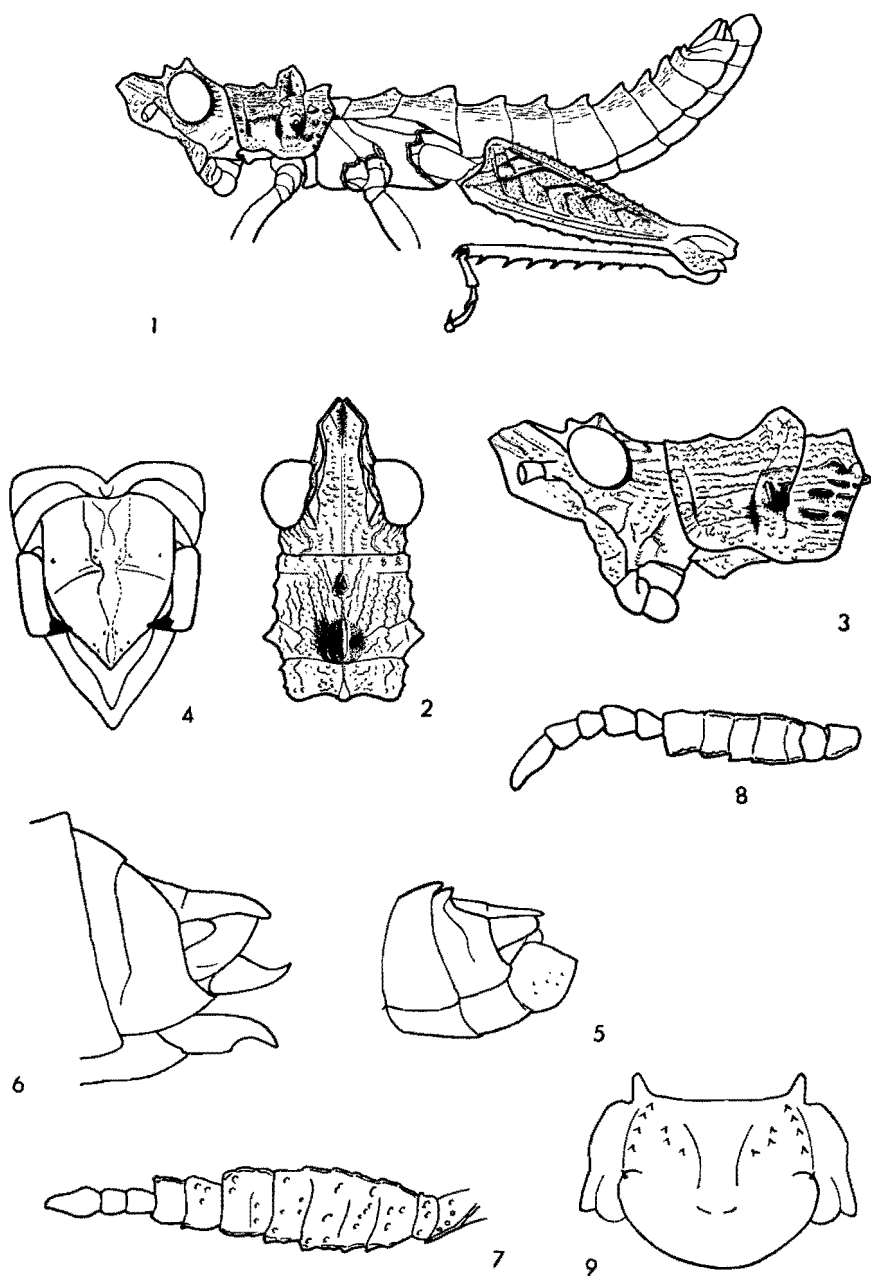
Antenna expanded and compressed laterally, shorter than head and pronotum together and composed of 15 segments. Fastigium of vertex acutely parabolic, strongly projecting in front and with strong lateral carinulae which widen in front and extend backwards above the eyes as two pairs of prominent tubercles. Dorsal surface of fastigium deeply depressed along centre and at the base where it joins the head. Frons in profile strongly excurved in upper part and incurved in lower part. Frontal ridge laminate and protruding forwards apically, diverging below antenna as two low carinulae which are constricted below ocellus. Facial carinulae are sinuate in profile.

Pronotum short, sub-cylindrical, rugulose and with weakly raised median carina and indistinct obtuse lateral carinae. Transverse sulci indistinct on dorsum, clearer on lateral lobe of pronotum. Both anterior and posterior

EXPLANATIONS OF FIGURES.

Thrincotropis karruensis sp. n.

Fig. 1. ♀, type. 2. ♂, head and pronotum, dorsal. 3. ♀, ditto, lateral. 4. ♂, end of abdomen, dorsal. 5. ♂, ditto, profile. 6. ♀, ditto. 7. ♀, antenna. 8. ♂, antenna. 9. ♂, epiphallus.



margins of pronotum above with shallow excisions. Prosternal tubercle obtusely conical, in cross section with flat, sloping anterior and rounded posterior surface. Mesosternal interspace about as long as broad and slightly narrowed towards the front; mesosternal lobes rounded. Metasternal interspace inversely triangular and opened behind. End of abdomen recurved. Hind femur moderately slender and not reaching to tip of abdomen. Hind tibia at base along lower margin with a fine pubescence; hind tarsus slightly shorter than half length of tibia. Arolium moderately large.

Supra-anal plate triangular, longer than wide with regularly curved sides and with a pair of lateral black sclerotizations. Cercus short conical, weakly incurved at apex when viewed from above. Epiphallus with large ancorae, well developed anterior processes and hooked lophi.

Body a chocolate pale brown with irregular black spots all over; situated laterally behind compound eye is a small glossy yellow spot which extends backwards to the pronotum. Hind femur with two black transverse patches on external face; lower side of hind femur brown; tibia black above. Tibial spines are with black apices.

♀-paratype. Larger than male. Antenna more compressed with the edges strongly serrated towards base. Supra-anal plate simple without lateral sclerotizations; valves of ovipositor relatively elongated and with weakly bent apices. Coloration approximately the same as the male but varying somewhat to greyish tan.

Length of body: ♂ 10.3—12.7, ♀ 18.0—18.4; pronotum: ♂ 1.7—1.8, ♀ 2.2—2.4; hind femur: ♂ 5.3—5.8, ♀ 6.9—7.3 mm.

Material examined: SOUTH AFRICA. Cape Province: Sundays River Valley, 12 miles S. Kirkwood, 20.xi.1958, 6 ♂ and 2 ♀ (including the type); 35 miles S. E. Steytleville, 21.xi.1958, 1 ♀. Number DB 95.

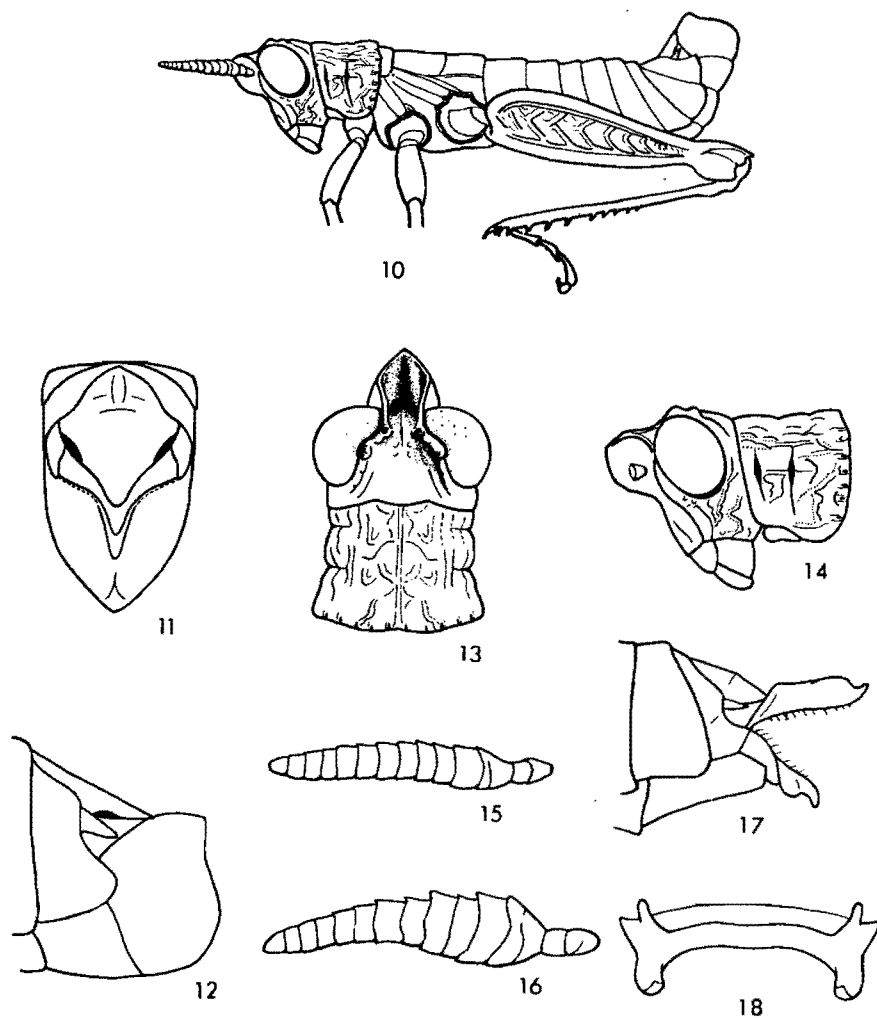
The ♂-type is in the Transvaal Museum, Pretoria and paratypes have been sent to the British Museum (Natural History), London, Academy of Natural Sciences of Philadelphia and the National Collection of Insects, Department of Agriculture, Pretoria.

The new species can be separated quite easily from *laticornis* by the following characters:

nasuta sp. n.
fastigium of vertex in profile strongly projecting forwards.
supra-anal plate much longer than wide and without apical projection.
subgenital plate convex with slightly curved posterior margin.

laticornis Dirsh
fastigium of vertex very weakly projecting in front.
s.a. plate wider than long with triangular apical projection.
s.g. plate more compressed laterally with truncate apex

This is a locally common species in the Sundays River Valley and is found in zones of short sprawling woody *Pentzia incana* O. Kuntze shrublets which colonize partly eroded clearings in a taller scrub community which has the genera *Euphorbia*, *Euclea* and *Portulacaria* prominent in its composition.



Leatettix nasuta sp. n.

Fig. 10. ♂, type. 11. ♂, end of abdomen, dorsal. 12. ♂, ditto lateral. 13. ♂, head and pronotum, dorsal. 14. ♂, ditto, lateral. 15. ♂, antenna. 16. ♀, antenna. 17. ♀, end of abdomen, lateral. 18. ♂, epiphallus.

It is nearly always found concealed amongst the upper foliage, sitting head uppermost and with the anterior parts of the body slightly raised. They are a very alert species and when disturbed run rapidly backwards down the branch into the centre of the bush where they are only extracted with difficulty. On several occasions when pursued from their original position atop the bush they were eventually discovered after breaking up the bush to be sitting immobile and head down at the base of the stem just above the ground.

The choice of plant is largely a matter of structure rather than species as was proved to the north of the type locality. Here they were found successfully inhabiting stunted *Rhygozum obovatum* Burch. bushes. Under normal conditions this bush grows to a height of about five to eight feet but in this instance under continual browsing by goats had been pruned down to a twiggy twelve inches or so. The eventual structure was not unlike the highly characteristic spherical shrublet of the Karroo. The insects were however only observed feeding upon the *Pentzia* leaves. Their procryptic shape and bark-like colour make them very difficult to see and they were first noticed only by methodically kicking the bushes over a large area. Several copulating pairs were noticed.

Further south in the arid marginal Sclerophyll and in the Great Karroo this species is absent and is replaced by the ecologically similar species *L. laticornis* Dirsh.

Genus **DEVYLDERIA** Sjöstedt, 1923.

The genus *Devylideria* was until recently represented by one species only, *D. coryphistoides* Sjöstedt. Then in 1956 two more species, *capensis* Dirsh and *bothai* Dirsh were added. Now another species, also apparently new, has been collected and is described below.

Devylideria acocksi sp. n. (Figs. 19—28).

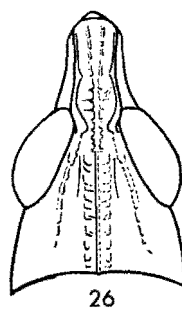
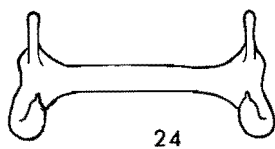
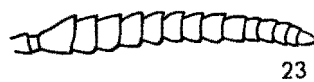
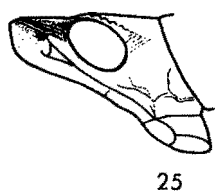
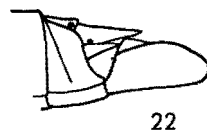
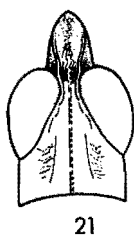
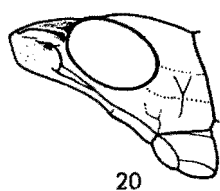
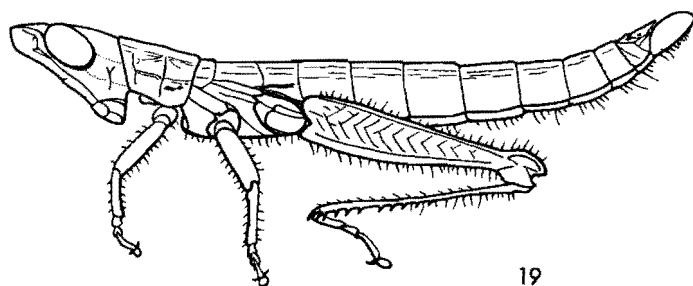
♂-type. Body slender, elongate, finely wrinkled and covered below with short sparse hairs.

Antenna longer than head and pronotum together, expanded and compressed laterally and with sixteen strongly separated toothed segments. Head conical, strongly oblique. Fastigium of vertex, longer than largest diameter of eye, regularly parabolic and very narrow with concave upper surface and raised sinuate lateral carinulae somewhat narrowed between eyes. Occipital carinulae weak, becoming wavy in depression at base of fastigium. Frons in profile

EXPLANATIONS OF FIGURES.

Devylideria acocksi sp. n.

Fig. 19. ♂, type. 20. ♂, head, lateral. 21. ♂, ditto, dorsal. 22. ♂, end of abdomen, lateral. 23. ♂, antenna. 24. ♂, epiphallus. 25. ♀, head, lateral. 26. ♀, ditto, dorsal. 27. ♀, end of abdomen, profile. 28. ♀, antenna.



strongly sloping backwards, feebly incurved above and slightly sinuate below. Frontal ridge in apical third compressed and plate-like, strongly projecting forwards, below with shallow sulcus and with two low sinuate carinulae which diverge below ocellus. Facial carinulae almost straight in profile. Eyes elliptical, strongly convex. Ocelli small.

Pronotum short, sub-cylindrical and rugulose with excised posterior and regularly curved, almost straight, anterior margin. Median carina low with fine longitudinal sulcus, lateral carinae indistinct represented by low callose convexities only. Transverse sulci obliterated on dorsum distinct on lateral lobe only, where basal one is deep and runs almost perpendicular. Prosternal tubercle with rounded obtuse apex and flattened anterior surface. Mesosternal interspace widened in front, narrowed in middle and about four times as long as wide; mesosternal lobes rounded. Metasternal interspace inverse and pitted deeply at sides. Anterior and middle legs short, covered with short slender hairs. Hind femur slender, ratio of length to width 6.8; hind tibia shorter than femur and covered below knee with sparse long hairs. Arolium large and longer than claw.

Supra-anal plate narrowly triangular with deep transverse sulcus near base and with three pairs of median tubercles and a single pair of longitudinal lateral sclerotizations. Cercus slender and conical. Sub-genital plate laterally compressed, elongate and with straight lower margin and rounded apex in profile.

Epiphallus with large thick incurved tooth-like lophi, with small elongate tubercles at apices; ancorae elongate and the bridge very wide.

General body coloration brownish grey with a pale ivory colored stripe extending laterally from below eye and continuing across pronotum. Upper side of hind tibia black, spines on underside are with black apices.

♀-*paratype*. Very similar to male but with antennal segments more strongly separated and serrated. Fastigium of vertex longer above, with margins more sinuate and more swollen at base. Supra-anal plate devoid of tubercles and sclerotizations. Valves of ovipositor moderately slender with curved apices. General coloration as the male.

Length of body: ♂ 20.2, ♀ 27.8—32.8; pronotum: ♂ 2.3—2.4, ♀ 3.4—3.7; hind femur; ♂ 7.1—7.6, ♀ 10.4 mm.

Material examined: SOUTH AFRICA. Cape Province: Niewekloof, 22 miles S. E. Willowmore, 13.xi.1958, 1 ♂ and 1 ♀ (including the type); 7 miles S. E. Willowmore, same date, 1 ♀; Uniondale Poort, 7 miles S. Uniondale, 15.xi.1958, 1 ♂ and 2 ♀. All with Number DB 104.

The ♂-type and two ♀-paratypes in Transvaal Museum, Pretoria. Others are sent to the British Museum (Natural History), London, and the National Insect Collection, Department of Agriculture, Pretoria.

The new species comes close to *D. coryphistoides* Sjöstedt, a species which also has a fairly long fastigium of vertex and long antennae. It is readily distinguishable from this species, however, by the more slender habitus, the almost straight frons when viewed in profile which in *coryphistoides* is deeply

incurved and sinuous, and the differently shaped sub-genital plate in the male. The epiphallus of the new species is also very distinctive although the supra-anal plate, as regards the arrangement of the tubercles is very similar in both species.

This species is named after my friend and tutor Mr. J. P. H. Acocks with whom I have spent many pleasant hours collecting in the field and who moreover has for many years past played a leading role in the study of the habitat of the Brown Locust in the Karroo.

This curiously elongated grasshopper shows a marked preference for the noxious waist high shrub *Elytropappas rhinocerotis* Less. or *renosterbos* as it is locally known. It appears a reasonably widespread but uncommon species along the contact zone between Karroo and southern Sclerophyll floras where almost pure stands of this bush flourish.

All the specimens were taken either from the long filamentous foliage or at rest upon the branches and stems of this bush, the bark of which closely harmonizes with the general body coloration of the insect. Females are relatively easy to capture and may be picked off the bushes by hand. The males are however more alert and have to be carefully manoeuvred into a glass tube before they can leap off into adjacent bushes. No nymphs were noticed.

Genus **LITHIDIUM** Uvarov, 1925.

Two species of this genus are known, however, both by the female sex alone. Now for the first time a small series of males of the genotype *L. pusillum* Uvarov are available.

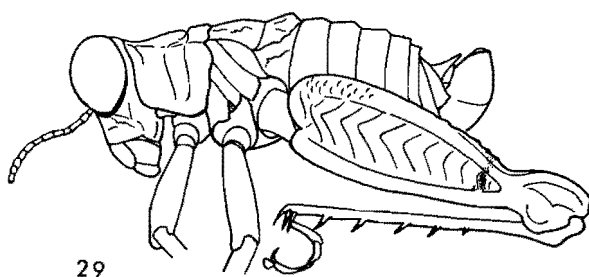
Lithidium pusillum Uvarov, 1925 (Figs. 29—33).

♂. Body small, spindle shaped, inflated in metathorax, strongly rugulose.

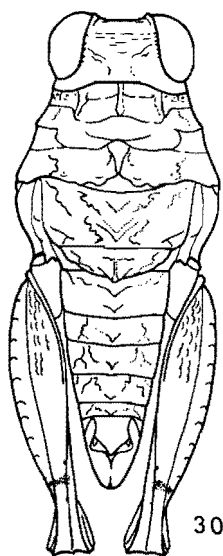
Antenna filiform, shorter than head and pronotum together. Head above, globular. Fastigium of vertex not projecting forwards, short and broad, sloping downwards and depressed in front with raised lateral margins against eyes. Occiput finely wrinkled. Frontal ridge in upper half wide, somewhat wavy between antennal sockets, below ocellus sharply constricted and widened towards clypeus and with blunt lateral carinulae. Facial carinulae very high, callose and strongly diverging below. Eyes comparatively large and convex. Median ocellus very large; lateral ocelli situated on raised tubercles.

Pronotum short and broad, widest at posterior margin which is serrated and weakly scalloped. Median carina low becoming indistinct in middle of pronotum; lateral carinae indistinct, represented only by a low callose convexity in prozona. Dorsum of pronotum with basal sulcus curved forwards and fused in middle to second sulcus. Posterior margin of metazona with sharp excision; whole upper surface of pronotum rugulose. Mesonotum scarcely visible, metanotum shorter than pronotum, rugulose and tuberculate. Prosternal tubercle low, collar-like with carinate anterior margin; mesosternal interspace

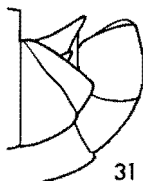
cup-shaped and narrowed posteriorly; mesosternal lobes almost straight; metasternal interspace obliterated. First abdominal segment fused to metanotum, rugulose and with raised median tubercle situated near posterior margin. Remaining tergites finely wrinkled each with a low tubercle near the posterior margin. Anterior and middle legs short with well developed knee lobes.



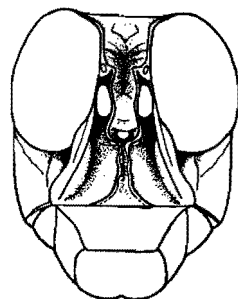
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33

Lithidium pusillum Uvarov.

Male. Fig. 29. whole insect, lateral. 30. ditto, dorsal. 31. end of abdomen, lateral. 32. face. 33. epiphallus.

Hind femur stout with upper carina feebly dentate towards knee and with regular herring bone sculpturation. Tibia with 5 outer and 8 inner spines; outer spines fairly long towards apex. Arolium shorter than claw. Supra-anal plate regularly triangular with obtusangulate apex, feebly sulcate at base. Cercus small, conical practically hidden by pleurae of abdomen. Sub-genital plate small, laterally compressed with rounded posterior margin and sub-acute apex.

Epiphallus bridge shaped with large acute ancorae and stout hooked lophi.

General body coloration pale sandy white. Meso- and metanotum darker brown. In the two other males studied these structures are coloured the same as the rest of the body. Tibia of fore and hind legs with small brown patches on external surface; hind femur with brown fascia before knee. Tibial spurs have black apices.

Length of body: 7.1; pronotum: 1.5; hind femur: 4.9 mm.

Material examined: SOUTH AFRICA. N. W. Cape Province. Fransenhof Station, 17 miles W. Prieska, 23.xi.1957, 3 ♂ and 4 ♀ (J. H. Kruger).

Specimens of the newly described male have been deposited in the Transvaal Museum, Pretoria, the British Museum (Natural History), London, and in the National Insect Collection of the Department of Agriculture, Pretoria.

Fam. ACRIDIDAE.

Subfam. EURYPHYMINAE.

Genus ANEURYPHYMUS Uvarov, 1922.

Only two species of this genus were hitherto known, the type species *A. erythropus* (Thunberg) and *A. rhodesianus* Uvarov. Now another species is described below. All are characterized by having a strongly toothed cercus in the male.

Aneuryphymus montanus sp. n. (Figs. 34—36).

♂-type. Medium sized, robust and comparatively rugulose.

Antenna filiform, slightly compressed, about as long as head and pronotum together and with 24 segments. Fastigium of vertex elongate, weakly pentagonal with concave dorsal surface and with fairly high lateral carinulae. Interocular space twice the length of first antennal segment. Between the eyes there is a short median carina flanked further back on either side by two small tubercles. Posterior margin of eyes weakly tuberculate above. Frons in profile excurved in upper half and straight below; frontal ridge flattened, slightly narrowed at apex and shallowly sulcate below ocellus. Frontal carinulae low becoming obliterated above clypeus; facial carinulae almost straight in profile and very low. Cheeks weakly tuberculate with deep vertical sulcus just below eye. Ocelli well developed.

Pronotum strongly tectiform with strongly raised, straight median carina

and strong sinuous lateral carinae, widest in middle and disappearing before posterior margin of pronotum. Dorsum crossed by three deep sulci. Prozona slightly shorter than metazona, surface of latter tuberculate and carinate. Anterior margin of pronotum above, excurved between lateral carinae; posterior margin obtusangular. Lateral lobe of pronotum with rounded lower margin. Prosternal tubercle tongue-shaped, transverse with rounded apex. Mesosternal interspace squarish, mesosternal lobes wide and with straight posterior margin. Metasternal interspace small, longer than wide, rounded posteriorly and closed. Elytron reaching well beyond tip of abdomen with rounded apex and slightly excurved anterior margin of basal part. Hind femur stout, scarcely exceeding tip of elytron in length with upper carina feebly toothed. Hind tibia much shorter than femur with 8 external and 9 internal spines. Arolium about as long as claw. Posterior margin of last abdominal tergite strongly sclerotized and irregular with small median projection.

Supra-anal plate transverse rounded and with comparatively wide apical projection which is weakly excised on either side. Middle of plate with two sub-median spherical tubercles and a pair of laterally situated elgonate sclerotizations. Longitudinal convexity broadly diverging and sulcate basally. Cercus stout, strongly toothed and serrated along lower margin. Sub-genital plate small with flat slightly sloping profile.

Epiphallus with sinuate lophi strongly incurved at the apices and with well developed ancorae.

General coloration greyish brown, base of wings pale lemon yellow; internal disc of hind femur black, underside of femur as with internal surface of hind tibia orange red; externally hind tibia is pale brown with black tipped spines. Tubercles and sclerotizations of supra-anal plate lustrous black.

♀-paratype. As the male but much larger. Supra-anal plate simple without tubercles and sclerotizations. Sub-genital plate with three lobes, lateral ones are irregularly rounded and shorter than median one. Ovipositor with curved valves, lower valve with blunt and rounded externolateral projection. Cercus devoid of teeth, triangular and flattened with acute apex.

Length of body: ♂ 17.5—20.4, ♀ 26.2—30.8; pronotum: ♂ 4.5—4.9, ♀ 6.0—6.5; elytron: ♂ 14.5—16.2, ♀ 18.4—20.8; hind femur: ♂ 11.4—12.7, ♀ 15.4—16.8 mm.

Material examined: SOUTH AFRICA. Cape Province: Langkloof Valley, 10 miles W. Karreedouw, 18.xi.1958, 10 ♂ and 11 ♀ (including the type). Number DB. 105.

The ♂-type is in the Transvaal Museum, Pretoria while the paratypes are in the British Museum (Natural History), London, the South African Museum, Cape Town, the Academy of Natural Sciences of Philadelphia and the National Insect Collection of the Department of Agriculture, Pretoria.

The new species is easily distinguished from both the other species by the much longer lateral sclerotizations of the supra-anal plate, the shape of the epiphallus and by the distinctive teeth of the male cercus.

This stout bodied insect is found locally common amongst partly burnt stands of evergreen Sclerophyll in the rocky foothills. It is an active geophilous insect which readily flies off when disturbed and is easily distinguished in flight by the pale lemon base of the hind wing. Besides adults of both sexes a great number of nymphs were still about. When captured and handled both sexes have the objectionable habit of regurgitating a dark brown fluid which readily stains the fingers.

Genus **RHACHITOPIS** Uvarov, 1922.

In his recent review of the genus Dirsh (1956b) lists eight known species from Southern Africa. An additional one is described below.

Rhachitopis sanguinipes sp. n. (Figs. 37—39).

♂-type. Body of medium size, robust, feebly rugulose with the underside covered with short hairs.

Antenna filiform, longer than head and pronotum together and composed of 25 segments. Fastigium of vertex with projecting frontal ridge, flat above and sloping roundly forwards with weak lateral carinulae converging slightly between the eyes. Frons in profile straight, rounded towards the apex; frontal ridge flat, weakly punctate and narrowed at apex, wider below and with weak lateral carinulae which become obliterated in lower half of face; facial carinulae, in profile low, moderately straight. Cheek with shallow depressions below eye. Eyes oval slightly longer than wide, convex. Ocelli well developed.

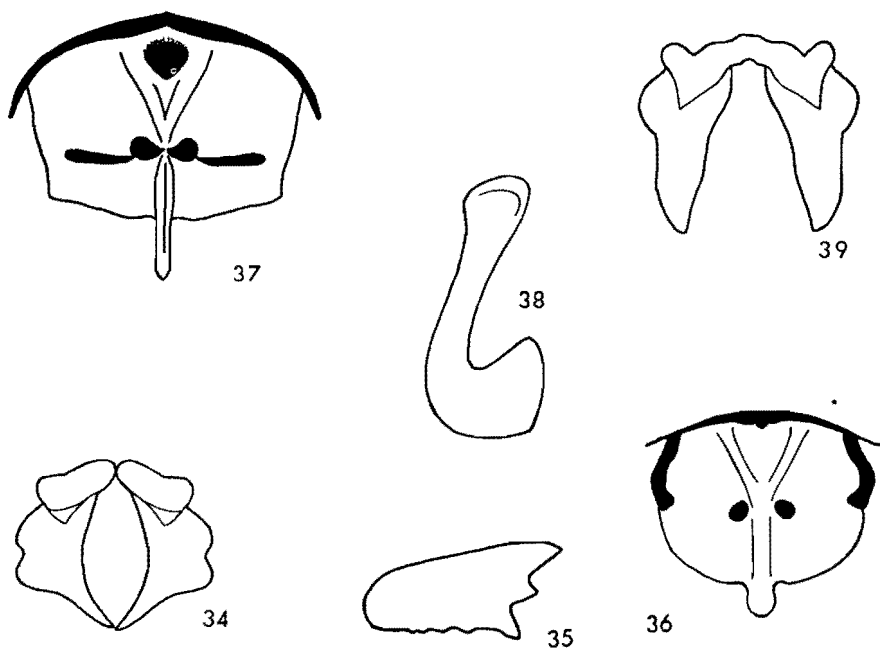
Pronotum weakly tectiform, median carina weak, partly obliterated in middle; lateral carinae low, sinuate, represented by low convexities which disappear in metazona. Disc of pronotum above crossed shallowly by three deep sulci. Prozona and metazona of about equal length, posterior margin of metazona broadly obtusangular. Metazona with surface covered with small scattered tubercles and rugosities. Prosternal tubercle conical with relatively acute apex and with anterior surface sloping more gradually than posterior one. Mesosternal interspace slightly wider than long; mesosternal lobes broadly rounded. Metasternal interspace ovoid with deep lateral punctures, open behind. Posterior margin of last abdominal tergite weakly incurved and strongly sclerotized. Elytron just reaching to tip of abdomen with rounded apex and moderately excurved anterior margin at the base. Hind femur robust with weakly toothed upper carina, lower carina broadly excurved in apical half near knee. Hind tibia feebly bent upwards in apical third. Arolium scarcely longer than claw. Supra-anal plate transverse, approximately quadrangular and with narrow elongate apical projection. Four strongly sclerotized and partly fused tubercles are located across middle of plate, sub-median ones spherical in shape, lateral ones linear. Base of plate depressed in middle with a large conical tubercle and with two posteriorly converging convexities which fuse to form the narrow apical projection. Cercus comparatively long and slender, gradually broadened towards apex and with short basal part.

Epiphallus with large ancorae and long horn-like lophi with sinuate margins and swollen base.

General body coloration a purply pinkish brown; antennae are yellowish. Hind wings an ashy transparency; internal disc of hind femur glossy black edged with deep pinkish red which becomes more prominent on lower margin of hind femur. Hind tibia externally below knee a pale brown, becoming replaced by pink towards apex. Basal segment of hind tarsi above also pink. Apices of tibial spurs are black.

♀-paratype. Larger and more robust than male but otherwise very similar. Hind tibia straight and not upcurved. Supra-anal plate simple without sclerotizations; cercus short conical, wide at base and tapering to acute apex. Valves of ovipositor robust, curved at apices. Coloration paler but with more brown throughout. Lower side of hind femur and tibia with bluish tinge to the red-pink colour, also paler.

Length of body: ♂ 22.9—25.8, ♀ 27.5—29.8; pronotum: ♂ 6.2—6.8, ♀ 7.7—8.0; elytron: ♂ 17.4—19.1, ♀ 19.8—21.3; hind femur: ♂ 14.1—15.4, ♀ 16.8—17.6 mm.



Aneuryphymus montanus sp. n.

♂ type. Fig. 34. epiphallus. 35. left cercus, lateral. 36. supra-anal plate, dorsal.

Rhachitopis sanguinipes sp. n.

♀ type. Fig. 37. supra-anal plate, dorsal. 38. left cercus, lateral. 39. epiphallus.

Material examined: SOUTH AFRICA. Cape Province: Langkloof Valley, 3 miles N. Joubertina, 17.xi.1958, 1 ♂ and 3 ♀; 11 miles W. Karreedouw, 18.xi.1958, 9 ♂ and 1 ♀ (including the type). Number DB 93.

The ♂-type and several paratypes in the Transvaal Museum Pretoria, other material sent to the following institutes: British Museum (Natural History), London; Academy of Natural Sciences of Philadelphia and the National Insect Collection, Department of Agriculture Pretoria.

This species can be distinguished from *R. nigripes* Uvarov to which it is related, by the longer more slender cercus, the more elongate epiphallus which in *nigripes* is short and wide with strongly incurved apices and by the pinkish red colour of the hind tibia which in *nigripes* is brown.

In the Langkloof Valley this geophilous species is locally common being found in numbers upon the partly burnt vegetation of the lower hill slopes. When disturbed they take off with a noisy whirr of wings and alight heavily a short distance away. It was a common sight to see alarmed specimens flying up and drifting down-wind to take advantage of nearby unburnt stands and skulk in their shelter. On several occasions they were seen feeding upon the narrow leaves of an Amaryllidaceous plant, probably *Lanaria* sp.. Many of the adults captured were very fresh and several nymphs were observed. The species had only recently come on the wing.

Subfam. CATANTOPINAE.

Genus **FRONTIFISSIA** Key, 1937.

Frontifissia laevata Dirsh, 1956. (Figs. 40-45).

Since the male of this species was previously unknown it is described below.

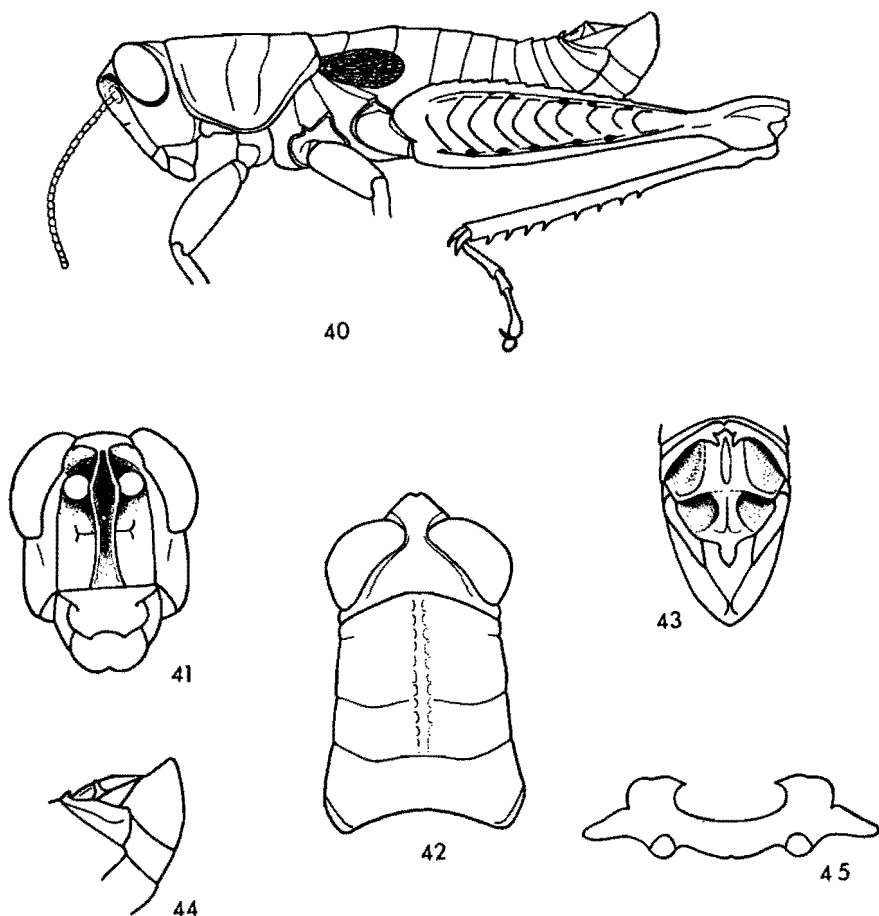
♂. Body small somewhat glossy and punctate all over.

Antenna long and filiform, fairly stout and with 24 segments. Head comparatively wide with fastigium of vertex short, triangular and sloping with scarcely excised apex. Frons in profile straight, sloping slightly backwards; frontal ridge weakly broadened between antenna, narrowing apically, sulcate and very feebly constricted at ocellus with two sub-parallel lateral carinulae. Facial carinulae, weak, almost straight. Eyes oval, convex, much longer than wide.

Pronotum elongate, broad, cylindrical with weakly obtuse median carina, lateral carina absent. Whole surface of pronotum is finely punctured. Only basal sulcus complete and crossing median carina, second sulcus incomplete and not crossing carina. Prozona three times as long as metazona; posterior margin of pronotum above, broadly and regularly incurved. Anterior margin excurved. Lateral lobe with posterior margin thickened and callose sloping obliquely backwards. Lower margin of lobe widely excised anteriorly and thickened slightly along edge. Prosternal tubercle conical, anterior face somewhat flattened, almost concave. Mesosternal interspace longer than broad with curved sides; mesosternal lobes with straight posterior margins. Metasternal interspace inverse triangular and open posteriorly. Elytron abbreviated,

lobiform and lateral with rounded apex. Hind femur slender, upper carina toothed. Arolium large, just longer than claw. Last abdominal tergite with a pair of small triangular projections which are excised in middle.

Supra-anal plate elongate, rounded towards apex and with large acutely projecting median apical part. Plate divided transversely across centre by anteriorly sloping ridge, highest at the sides. Longitudinal convexity sulcate and widest in basal half and interrupted by transverse ridge. Cercus large, flattened, acutely triangular. Sub-genital plate short, conical with upcurved moderately acute apex. Epiphallus bridge shaped, ancorae lobiform and weakly sclerotized, lophi small and covered with small teeth.



Frontifissia laevata Dirsh.

Male. Fig. 40. whole insect, lateral. 41. face. 42. head and pronotum, dorsal. 43. end of abdomen, dorsal. 44. ditto, lateral. 45. epiphallus.

General coloration light green; antenna red. Median carina of pronotum as with abdomen with a pink stripe, wide on abdomen and edged laterally with narrow black margins. On lateral lobe of pronotum before base of elytron is a conspicuous glossy red patch. Clypeus, sternites of thorax, hind tibia and tarsi with diffused red coloration, external side of hind femur dotted with conspicuous black spots along outer carinae. Tibial spurs white and are with black apices.

Length of body: 14.2—15.2; pronotum: 3.7—3.9; elytron: 2.2—2.6; hind femur: 9.1—9.2 mm.

Material examined: SOUTH AFRICA. Cape Province: Outeniqua Mountains, Prince Alfreds Pass, 7 miles S. Avontuur, 15.xi.1958, 2 ♂ and 1 nymph; Couga Mountains, 12 miles E. Uniondale, 16.xi.1958, 1 ♂. Number DB 2.

The newly described male is in the Transvaal Museum, Pretoria the others have been deposited in the British Museum (Natural History), London, and in the National Insect Collection of the Department of Agriculture, Pretoria.

This species was found fairly widely distributed along the Outeniqua, Couga and Karreedouw Mountains and seems closely associated with the exuberant winter rainfall Sclerophyll vegetation which not only occurs here but all along the coast to the south.

They are incredibly powerful jumpers and have the elusive habit of diving headlong into the denser patches of herbage. Although a few adult males were collected most of the specimens were still immature, no adult females were found. From a small series of adults of this curious grasshopper taken in mid-February it appears that their season begins towards the beginning of November and continues on until at least late February and probably well into March just before the advent of the cooler wet weather.

ACKNOWLEDGEMENT.

I wish to acknowledge with grateful thanks the help I have received from Dr. V. M. Dirsh of the Anti-Locust Research Centre, London in verifying the identity of much of the material of this paper. Thanks are also due to Mr. J. P. H. Acocks of the Botanical Survey for providing transport on this trip and for his enthusiasm and readiness to always stop and search along the roadside for grasshoppers.

This work was kindly sanctioned by Professor Dr. J. W. C. Geyer.

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